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## Commission for Economic Development

>> Lt. Gov. Garamendi: I think it's time for us to get started here. One of the real attributes and usefulness of the commission for economic development is what we call networking. And we have been doing this to a fare-thee-well, and so we're past our starting time. I've enjoyed talking to many of you and commission members and catching up on all the things, I'll agree and so we'll delay the meeting another five minutes. Virginia, thank you so very much for joining us earlier today. We were over at the new underwriters laboratory, UL facility here in San José. It's a new facility that tests photovoltaic, speed to market, things that Tom McCalmont will be speaking about. We'll now do our own self-introductions. Why don't you start us off.

>> Mr. Stone: I'm Aubry Stone and a proud commissioner representing the entire state of California and the presidency of the California back chamber of commerce. Glad to be here.

>> Lt. Gov. Garamendi: Thanks Aubry. Virginia.

>> Ms. Kiraly: I'm Virginia Channing Kiraly. I'm a resident of Silicon Valley. It's great to see a lot of friends here today. I've been mostly from the financial sector. Those of you know me from the NASDAQ, stock market or the support of the technical museum. I'll be glad to be here today.

>> Lt. Gov. Garamendi: I'll come back to Rick Baum. Tom.

>> Ambassador Nassif: I'm Tom Nassif. As well as vice chair, I represent the fresh produce growers of California and Arizona.

>> Dr. Vardiabasis: Good morning, I'm Demos Vardiabasis, professor at pepperdine university.

>> Mr. Barreto: I'm the chairman of the Latino coalition, which is a national Hispanic advocacy group. Now, based in Southern California. And I am also the former administrator of the United States small business administration. Happy to be here this morning.

>> Mr. Curtin: Good morning, I'm Danny Curtin, director of California conference much carpenters.

>> Ms. Swearengin: I'm Ashley Swearengin. Candidate in the Fresno mayor's race. Hopefully becoming the next mayor of Fresno, 50 days from now.

>> Lt. Gov. Garamendi: Anybody here vote in Fresno?

>> Ms. Swearengin: We'll register you today.

>> Lt. Gov. Garamendi: Now let me introduce Rick Baum who will take us on to our next topic.

>> Ex. Dir. Baum: I'm Rick Baum, the executive director of the commission. I'm pleased to introduce the next speakers. Andrew Chung, president of Lightspeed venture partners, focuses on clean tech, the Internet digital media and software. He helped lead Lightspeed's investment in this area, and currently serves on boards of ColdTech and Xtera and Scion. He serves on the entrepreneurs group. Our next speaker is Tom McCalmont. Tom has been for 25 years developing new businesses that have focused on innovative technology solutions. He, prior to starting his current business, at regrid power, he founded and served as the first CEO of new access corporation, a company that developed customer service solutions. He is also a charter certified solar engineer. And I'm -- I've had -- you're also the chair of -- SolarTech, which is one of the reasons we have you here today.

>> Lt. Gov. Garamendi: Rick, let me just interrupt for just a second. I'm going to take 90 seconds. The commission determined at one of its earlier sessions that we wanted to focus on how to keep the California economy sustaining and growing in the future as we change our energy systems from relying on fossil fuels, to one relying on renewables. And simultaneously, how do we get the workforce to do that. And so this hearing today is specifically on those issues. And thank you very, very much Rick, thank you for the introductions.

>> Ex. Dir. Baum: With that Andrew I'm going to have you begin and you'll be focusing on capital investment in the whole area of clean tech.

>> Mr. Chung: Thanks a lot Rick. It's an honor to have me here and present to you, lieutenant governor Garamendi and the members of the CED. Again Andrew Chung, member of Lightspeed partners. We are a global manufacturing firm, based in Silicon Valley, with 2.3 billion under management, recently, 22 investment professionals with some of them being in China, India and Israel and through the covers our history have been top quartile through and through. Some investments, riverbed, top performing IPO of 2006, as well as versus systems, top acquisition of that year. On the bottom right you can see some of the clean tech and energy investments we've made over the last two and a half years or so and I'll go into a little bit more detail on that as we get through the presentation. I think one important point to make before I get into the meat of the presentation is that a lot of the startups that we do invest in are very heavily dependent on policy regulation and their ability to influence the markets, the economics and so

forth. And so again, it gives me that added pleasure to be able to address this group in hopes of hopefully sharing some of our perspectives and influencing some of that policy.

>> Lt. Gov. Garamendi: Incidentally, the specific task of the commission is to do just that.

>> Mr. Chung: Perfect.

>> Lt. Gov. Garamendi: To influence policy, to be a sounding board for the legislature and the governor and the administrators.

>> Mr. Chung: That's perfect.

>> Lt. Gov. Garamendi: Tell us what we should do.

>> Mr. Chung: Great. In the presentation I'll talk about how this area has captured the imagination of the investment capital community and the investment community, how public policy fits into that matrix, talk about the economics for some of these sectors and close off by discussing public policy and some of the areas that will really help our startups. So the two charts that are on this slide, I'm sure many of you are familiar with the theme here is that global energy needs are rising at an unprecedented rate. And a lot of that is really dependent on our ability to use carbon. Of course that creates certain climate change effects that are not good for the planet earth. As you can see in the left side, the amount of electricity generated? In the U.S. the amount of electricity needs are doubled since 1990, and China which has recently become number 2 in the world has gone up tenfold since 1990. So the needs of electricity are rising rampantly. And most of that electricity is still, today, being supplied by fossil fuels. On the right side, you can see the impact of that fossil fuel need. The red line represents the amount of carbon dioxide that's in the atmosphere, over a 400,000 year macro time scale. It has gone up and down in a fairly predictable cyclical format. And the blue line is the amount of temperature change at roughly the earth surface that corresponds very roughly with the CO2 levels in the atmosphere. That right side spike is really the industrialized era over the last two or three centuries, where that has gone up dramatically. And accompanying that scientists believe will be a significant temperature change which contribute to the climate changes that face us here. Underlying that has been the more obvious angle from the consumer viewpoint is the price of oil has risen dramatically to levels that haven't been seen since the '80s. The red line is the inflation adjusted pricing for oil over the last 50, 60 years, and this chart ends at the beginning of 2008, and actually misses the spike that we had over the summer where we reached \$150 a barrel and has calmed down at \$100 a barrel.

The point is here that many folks believe that while the oil price might come down a bit to historical levels it won't come down that much. So it is an important issue that faces us here. If we look at sort of the sources of energy and fuel that supplies our civilization, this chart shows the various global sources of energy. And the gray scale items are coal, oil and gas, which are our traditional fossil fuel carbon dioxide producing fuels and the more colorful parts represent renewables, the renewable portion represents well less than 10% of the overall pie. Again with hydroelectric being a significant part of that. So despite all the excitement around that area, we have a substantial way to go before that's part. Even by 2020 scientists believe that some of the optimistic projections would say 20% by 2020. It is a portfolio solution that we needed. Energy, coal, oil and gas need to be cleaned up which necessarily has to be part of our energy solution going forward. And to compare the U.S. relative to other countries around the world, you can see a couple charts here on the percentage share of hydroelectricity, other renewables and biofuel vehicles and on the left side in terms of hydro, we're far below the world's average and certainly lagging behind the Scandinavian, European countries in our uses of hydro, outside of hydro, with solar and bio fuels we are above average, but do lag quite a bit behind many of the industrialized countries many of which are in Europe. And then on the right side is the share of biofuel vehicles and when that means is flex-fuel vehicles where today you can drop in ethanol and have it work as a vehicle without blending any other gasoline equivalents. What is the solution for this? And how do investors think about ways of impacting the problem that I've outlined? And clean tech is really an umbrella term that covers a broad portfolio of sectors that aim to try to solve this problem. And I emphasize that it is a portfolio of sectors. A lot of folks sort of misclassify clean tech as one of the sectors that venture capitalizes think of. In many cases clean tech is more broad and more deep than I.T. The way that wind and solar, we think of them. There is a considerable amount of breadth with solar wind fuels nongeneration technologies such as storage technologies and so forth and within each of them is a rich level of opportunities for solar enthusiasts to really go deep and focus on different parts of the value chain and similarly with some of the other technologies. Using solar as an example, I'm sure Tom will go into more detail on this, you can see that for the traditional method for making solar cells and putting them up on rooftops, there is a considerable amount of opportunity all the way from the polysilicon material, all the way to creative ways

of financing and installing the solar up on your rooftops. And I'll go into a little bit more detail on that later. But I think the point of this slide is really to show that for entrepreneurs who are in the Silicon Valley there is considerable amount of opportunity up and down just solar. I could probably throw a chart up on this for every one of the sectors I had on the slide. As far as what Lightspeed has made in the area, we have made eight investments to date across a number of these sectors. It's actually pretty broad across many of these sectors. You can see we have covered solar with a high efficiency thin film solar, both producing petroleum equivalence, some technologies that introduce coal oil and gas and a media research company. One of the questions I often get is why all the hubbub? Why have folks been reallyying around this area over the last three to five years and why are there a lot of long time I.T. investors like Lightspeed looking at this area? And you know, we have been look at it for about two and a half three years now. But today, every day I get calls from my colleagues who are saying, hey, I'm thinking about jumping into clean tech and I want to see where I should invest. Why is that happening? One of the things I'd like to show is some of the different factors, why they should be different in the 1970s and 1980s when we had our last crisis. One of the things is it is a massive end market. Energy is a multitrillion dollar market. Depending how you slice and dice this umbrella you get hundreds of millions of dollars of opportunity. Even a niche within this, jet fuels for military applications, that's still a multibillion dollar opportunity. So that makes its easier for us to get excited about it. A shift in economics, one shift from the '70s or '80s, the cost of producing a solar cell is 100 times less than 1989. That has created a situation where you're competitive with the grid or competitive with gasoline or competitive with other forms of battery technology. That's an exciting thing I think that has gotten investors interested with the proper public support, can you get it out on the market and have folks buying it. Despite that there is still a significant amount of technology headroom. So solar cells have been coming down in a particular way. The cost of making a crystal or solar sell drops 20%. There's a significant amount of innovation in the thin film area. You're getting the best and brightest scientists in the world all of a sudden focusing on this area over the last five years or so and that creates a significant opportunity for technology improvement which again venture capitalists like. Again, imperatives, for the first time in a long time, state governments, local governments, the national government to a certain extent, have started to think about ways to improve the energy problem and put in the right policies to support startups like the ones we've invested in. And then last but not least, corporate and social imperatives, you can't open the newspaper these days without ways corporate initiatives, Tesla and so forth. For the first time the perfect storm is getting investors excited about this area. We believe that it is sustainable this time in history relative to 30 years ago. And just a sampling of some of these corporate and social imperatives, that last point I was making. Google has allocated hundreds of millions of dollars to various types of technologies that are hopefully going to be competitive with coal. Walmart who actually has a fleet that drives about a billion miles every year, they have allocated half a billion dollars to sustainability initiatives within their corporation. BP, also half a billion dollars seem to be the magic number. They've given half a billion dollars to the Lawrence Berkeley labs for biofields research and development, Ikea, has announced a fund going to energy lighting resources and such. Toyota has announced its millionth hybrid vehicle last year. Which silenced the naysayers. They are really here to say. You can't drive 101 or 280 without seeing a Prius rolling around. Our former Vice President is really seated when the public consciousness the idea that there is a climate problem here not only businesses but individual consumers can do to help alleviate that issue. So with the perfect storm that I mentioned, Owen.

>> Mr. Stone: Clean tech investors have really been getting active in this space. The different bars represent the amount of venture capital going into clean tech and the line represents the amount of venture capital. More importantly clean tech is going up dramatically, which is signaling, a lot of the venture firms running around sand hill, folks are switching gears to start learning about this space and get smart about investing here. The bulk of the capital has been going into generation related technologies and this would include solar, biofuels and wind. But you can see that storage technologies, transportation efficiency, the ones that get a lot less of the press they are still getting significant amounts of investment and we will need to continue to invest in those areas over time. So as we look at different deals, and Lightspeed has looked at about 700 or so clean tech companies over the last two and a half years, the bulk of which has been in solar, about 20% of the companies have been in solar and then also in sort of dirty tech or brown tech companies like coal, oil and gas related technologies. We've come up with a set of criteria that we apply which is sort of beyond the usual market product and team criteria that you use for an I.T. related investment. We found that with clean tech because it involves so many more parts of the ecosystem including the government utilities, we've had to add a different lens to looking at this. First

is addressable market activity. We do have the benefit of a lower market risk inful of the areas we look at. But entrepreneurs are looking at more and more niche areas, I'm looking at a solar panel that's going to go to a roof, for that specific part of the value chain is that enough of a market opportunity for us to create a billion dollar company. Because that's sort of the type of return that we would need in order to justify an investment. Strong technology and process defensibility, so a lot of the technologies that we look at are very science intensive. So synthetic applications for biofuels, or new types of nanoparticle technical, a lot of this is, is this a me-too activity? Is this a unique innovative solution that no one else can touch? If you can do it you're really kind of the single player in a big field. Process defensibility is important where it's a technology that's more about taking solar cells and putting them up off roofs and have innovation, how defensible and unique you can be in the market is important. Convincing fundamental economics, I'll go into this in a little bit more detail later, but a lot of clean tech investments, probably more on the Internet and software side, we do a lot of sensitivity analysis around whether or not the economics make sense. And for a lot of these company they have economic drivers that are outside their control. So whether it's the subsidies for blending credits and biofuels or the investor tax credit for solar or zero emissions vehicle credits for the transportation industry, they don't have control over that and they certainly don't have control over crude oil prices or sugar prices or these other macroeconomic factors. So analyzing how the economics play out for the company over time as they develop their technology is really important. A viable distribution strategy, what's your after market, after you're able to create the technology, how are you able to scale up and go to market? This is where some scientists need additional support around figuring out how to take it to market. You spend a lot of your R&D time developing this technology but if it doesn't plug and play into our vehicles today or requires hydrogen infrastructure and forth it makes it a lot more difficult for us to invest in given our time horizon. Capital efficiency. And this is one of the challenges with a lot of the clean technologies. It costs \$200 million to make a sizable solar plant or a \$400 million investment to make an ethanol plant. As venture capitalists, we don't tap into that type, to satisfy that type of capital requirement. What we look at is a modest A capital injection so that product financiers will get excited about this and develop the nine-figure numbers to develop the companies. You're dealing with certain fuel cell technologies that depend on hydrogen pumping stations around and it's going to get PG&E a while to get that out. And similarly flex fuel vehicles will take five to ten to 20 years before it's ubiquitous. A lot of the technologies we look at we really try understand are there certain barriers that will make the time to market just too long for our investors or limited partner investors to get excited about. Again, macro economic regulatory and public policy tail winds. I think there was a recent survey done among many of my peer venture capitalists about between 80 and 90% of the folks said that policy and macroeconomic conditions are really a key figure for making investment decisions. So relative again to I.T. where you kind of care about maybe privacy acts but that's basically all you have to think about, with a lot of the clean technologies we invest in, we look very closely about what legislation is being done around solar. Is the ITC going to be renewed, GMHC reductions, I'll get into that more in a moment but it's a very important piece of our analysis. Last but not least, having a team that has startup and domain experience, I have to emphasize the scale-up part of it in that a lot of folks don't really have the experience of taking you know a solar panel which is operating at 15% efficiency at a dollar a watt and making ten million of those every year. It's a pretty big challenge that a lot of the folks in the clean tech community are grappling with right now and is also another area where I think public policy and kind of the government leadership can help facilitate some of the contact within the network of folks who know how to do that. And given if audience here, I'm going to spend a little bit more time talking about the economics and the select sectors here and talk about the public policy sectors that could help. So some of this information moot be familiar to all of you already. So I'll try to be brief. Within the solar stride again it is all about economics and driving towards grid parity. And I've got two different types of technologies that the press often talks about. One is crystalline silicon, the calculators you had growing up, those are made out of crystalline silicon. The technology has been basically unchanged for 30, informs year-to.

>> Lt. Gov. Garamendi: At that time I had a slide rule.

>> Mr. Chung: The solar-powered calculators.

>> I was growing up at that time.

>> Mr. Chung: Sure. Thin film is the technology that's been receiving a lot of investment over the last three to five years and the blue part of the bar represents the cost of producing a module which is a panel can you hold in your hand. And the yellow represents the cost of actually putting that up on your roof and all the wiring that's associated with connecting it to your house or connecting it to your inverter

system. And I've also goes target efficiencies at the bottom. What efficiency effectively says is the number of Photons, how many electrons do I get out. That directly affects the amount of surface area. Higher efficiency panels you need fewer panels on your roof. You need nor glass, thicker frame, a bigger roof area to facilitate that which is why their yellow bars are on average smaller than, on average larger than the crystalline silicon bars. And crystalline silicon involves many more steps that are complicated and more difficult than thin film so that's why the blue bars are higher. So some of the investments we've been looking at are really trying to optimize both of those, looking for high efficiency products which reduces your yellow bar but has thin film properties which drive down your product cost. One of our investments scion is attempting that. Wishful thinking, \$50 a barrel oil wholesale, you can see the production cost of gasoline would be at that level. Some of the other technologies that are out there for biofuel, the yellow portion represents the number of tax credits that are available today to some of these producers and blenders. And soy based biodiesel is roughly at that level. You can see they are competitive with a lot of the traditional forms of oil wholesale. Corn based ethanol is the same based stored. These technologies are relative mature now and reaching cost competitive with these existing solutions. These are feed stock constrained. You hear a lot around the food versus fuel debate. You need corn for food, and corn oil and soy oil for food. It makes it not sustainable over the long term. And if you look at the renewable standards that have been passed through different states and through the national government, we just simply on the have enough food to be able to supply what we need to hit those marks. Now, cellulosic ethanol is ethanol that are being produced through cellulosic materials, to reconfigure those into hydrocarbons which are ethanol or gasoline equivalents. You are sort of at the cusp now, where it's getting competitive with oil or gas today, certainly in the summer, and subsidies will help. The issue with the the ethanol technologies is it's not compatible with infrastructure. You can't just take a gallon of ethanol without blending it with a traditional form of fuel. Yes.

>> What do the Brazilians use?

>> Mr. Chung: Mostly corn or sugar based ethanol. They have engines built specifically to be able to use ethanol. If you take ethanol and dump it into your car engine, your engine will start knocking and lock up and you need to blend it with gasoline for it to work. But Brazil because of the way they built their vehicle infrastructure they've been able to make it work. So -- and also, another issue around ethanol is, pipeline infrastructure. You can't push ethanol through the pipeline today. You actually have to transport through either rail car or through tankers so again, it sort of adds an additional cost of transporting it. So a lot of the technologies that we've been look at and venture capitalists have been investing in, is using a variety of sores of material, and producing products that are infrastructure compatible where it's a direct replacement for gasoline or a direct replacement for diesel that will work in your engines without any kind of modification so a lot of that is being done today by venture capitalists. Can you see techniques, synthetic biology, metabolic engineering and so forth that are trying to capitalize on that type of opportunity. On the storage side, looking at some of the battery technologies, you'll be familiar with lead acid, nickel metal Hydride. Each of our laptops has a set of Lithium ion batteries in them. How much power are you actually getting out from the said batteries? Lithium ion is not as safe but generating a lot of power of course over time and as we've created the devices that last longer and don't need to be charged as often or as quickly, when you start thinking about a Tesla which has 7,000 Lithium ion batteries strapped together in the vehicle and many other companies that are doing similar types of battery packaging it becomes at the forefront of OEM auto manufacturer's concern, can I still have that same technology? That's the same technology top right that a lot of folks are investing in today. Moving from renewables to again brown tech or dirty tech. Coal as many of you know is the primary source of SO<sub>2</sub> emissions today and certainly a huge problem around carbon dioxide emissions and so forth. On the left side you can see the amount of growth, from 2001 to 2004 period more magnified today, it's been growing a lot more than the traditional forms of fossil fuel technology. A lot of it's been coming from China. Every week two megawatt coal firing facilities are being struck ground to produce the energy that they need to catch up with their GEP growth. In the U.S. as well it's been pretty dramatic. The amount of coal electricity is about half. Contributing to SO<sub>2</sub> emissions. The problem is clear. What a lot of these have been thinking about is is there a way to focus on high efficiency coal, to bet more BTUs per ton of coal of electricity being produced. It turns out the graph over the last three or four years of coal prices, the line on the bottom is powder river basin coal which is from Wyoming. And highest moisture, lowest efficiency and highest emissions. That coal is actually about five times less, five to ten times less costly than a loss of East Coast coals, which burn more efficiently and produce fewer emissions. Coal treatment technologies, using microwaves to nuke a piece of coal, and taking out 70% of the moisture, 70% of the

sulfur ash mercury and chlorine, and what comes out is a much, much more efficient coal, to help alleviate that coal. So shifting gears to public policy and the support that we've had over the years, I'm borrowing these charts from Art Rosenfelt. There was a significant amount of changes in 1973 as a significant result of the last energy crisis. As you can see in California those regulatory changes which were a lot more progressive than a lot of the areas in the U.S. resulted in the per capita energy sales being relatively flat over time since then. Continues to escalate at levels that were similar to the pre1973 era. On the right-hand side, looking at a more national initiative, with energy star, as many of you have probably seen on your refrigerators, the sticker goes on there suffice that the refrigerator has been subject to regulatory controls on how much electricity has been consumed per cubic foot or per volumetric area. That pink line has been going up since the invention of the refrigerator. But the energy use per unit over time has been coming down dramatically. And effectively, the regulations caused the companies that weren't so innovative and didn't put their engineering to affecting this problem, they went away. How does energy policy help today in clean tech? I've put things, many of which come from California, since California fortunately is one of the most progressive states in the union around clean energy and clean technology. And then I'm going to talk a little bit about some of the policy mechanisms that can affect this. First is providing funding aid for clean tech startups and California already has a problem through Cal PERS and Peer that already provides some level of grant money or funding for early stage startups. Now, one of the problems with clean-tech startups is for a lot of the early stage folks they don't really have access to venture capital funding when they need it as the very outset. So when they're looking for kind of the first 300 to 500,000 to a million dollars, they are mostly two guys and a dog. They don't have the money. Could contrast that with the Internet space where today the group around the table could start a company and we get a couple of college engineers to ramp it up, it's a very low capital requirement. What a lot of the engineers are able to do is to bridge that cap gap between early stage, the point where we really can come in and add some value. Grant moneys, loan guarantees, tax breaks all contribute to that. Supporting, again with I.T, it's pretty independent. You can have a very isolated group of entrepreneurs that can build a great company. Whereas I think in clean tech you really need the buy-in of utilities, of the policy makers, of large corporations in order to do that and to the extent that government leadership can help facilitate that communication to help some of those entrepreneurs who normally would not have the right access to engineers at PG&E or So-Cal Edison. Europe are really where the end points of the scientist who has a new solar cell design are going to be looking towards. To the extent that the executive leadership at the various government levels can help facilitate those types of those communications that can be helpful as well. Setting an example, being a number one customer of a lot of the clean tech businesses that's important. I think in California that's being done to a certain extent. For a lot of the other state governments, they're starting to more broadly mandate that, the government buildings and government institutions and government supported institutions are using LED lights and green building materials and so forth last two points are arguably the most directly important related to policy, make multiyear commitments to economic policy, and environmental spot. This is one of the issues that a lot of investors and startups have a tough time grappling with. If you have year on year renewals, for California based companies today their survival depends on the renewal of the ITC, based on their gross margins and their ability to generate cash. That unpredictability really has an impact on whether or not they can make the long time lead capital investments they need to make. The long time expanding of consumer adoption. Across all the sectors within clean tech like smart grid technologies or different types of biofuel technologies really inspiring consumer and commercial adoption through various types of incentives often delivered by the utilities are really an important part for getting folks to adopt this stuff. Consumer sentiment as many of us know isn't going to be driven by their own personal economics. The compact fluorescent lightbulbs cost less but folks haven't been adopted that because they don't make those economic calculations in their head. To the extent that the government can help support those types of buying behavior, that would be helpful.

>> Andrew.

>> Mr. Chung: Yes.

>> Can you talk about examples in different regions where it's working pretty well and what should be emulated?

>> Mr. Chung: In terms of regions, I don't know if there's been really large concerted efforts supported by the government outside of California around creating clean tech clusters. I think what's been happening is more private groups like in California, the California clean tech open which you might have heard of is a group of private entrepreneurs that built a business competition, to bring in institutions of the government,

and PG&E. And the government has been very supportive of it. In fact I met lieutenant governor Garamendi and from San Francisco, mayor newsom. A lot of the customers of these startups, in a way that facilitates the communication they need as well as the communication you need to figure out away types of policies could help their relationships. That's the type of leadership that I think we'd be really look at. And to date, I'd say that we're still very early around the country for --

>> Andrew part of you what I'm hearing you say which I think is very important for commission, is that much of this could be done on a local or regional basis. It doesn't necessarily have to happen on a statewide basis. A region could pick off or work with a group to develop or come up with its own tax base for funding or providing incentive. It doesn't necessarily have to be on a statewide basis.

>> Mr. Chung: That's true. I know the mayor will be telling you what they're doing. The San José is a great clean tech cluster, south San José is another area that is seeing a lot more activity as well. You can certainly do it at a local level and kind of expanding it more broadly to the state level. I think where kind of the really local efforts might benefit from is kind of the statewide effort that excess hey, Silicon Valley, you're made up of a lot of local governments. If there's a way to get Silicon Valley more broadly supported, whether it's tax structures or again ways to facilitate communications with the CPUC or the CUC, so forth. I think that's where state government can assist. So some of the policy mechanisms that we've seen both in California and elsewhere, and you can see that there's a lot of them, so I'm not going to go into a lot of detail. You can certainly ask me questions about some of them. The investment tax credit is one of the major ones, in solar. A lot of PPA incentives at the residential, commercial and industrial based levels are really important in being able to drive down the up front cost of solar investment. So as a residential customer, thinking of a \$50,000 investment of putting solar on my roof is a much more daunting thought of, no up front, you buy electricity from me, and I will figure out how taxpayers can invest in this. That's a much more palatable approach. Different companies are trying to develop models arounds this, hinging on corporate tax credits. On the bio side, for ethanol it's about 50 cents per gallon. The distribution and performance standards that California has put into place includes the amount of GHG reduction over time, over a certain period of time for the entire transportation industry. We'll leave it up to market dynamics to figure out who's going to do what but you guys find how to reduce the amount of vehicle emissions coming out of your vehicles. The am of ethanol that needs to be blended, the state government and the broader federal government has the opportunity to put in mandates to make sure we are blending in the amount of ethanol to make it safe and emissions free. On the wind side, a wind producer doesn't necessarily have incentive to produce energy at night, which is really when the wind blows. And so without the ability to either store or harness that ability and without the incentive to actually sell that back to the grid at certain times, it can be a deterrent for wind merchants to invest in technology. In particular in grid storage, which is a really important piece to this puzzle to make the grid smarter and to make distributed energy something sustainable going forward. With the smart grid area I think one of the things that is often lost upon the public is, today there are about 20,000 points of generation for energy out there in the U.S. About ten, 15 years ago there were pain 7,000 different points of electricity generation, energy generation. In ten or 15 years, that could be over a million. With every single solar installation, all of a sudden PG&E is not going to have control over the independent distributed points of generation. A way for them to be able to manage the overall grid stability and match supply with demand is around grid scale storage. The ability to store the energy that's created from wind or the energy that's created from solar at off-peak hours and be able to deliver it when folks come home at night and start turning on their TVs and so forth this is one of the areas where we've actually spent a lot of time talking with PG&E and CPUC folks in trying to encourage them to give more support whether it's government or utility based support around this. Because with all the different blackouts we're seeing, there was a huge wind crisis in February where for a certain wind farm wind stopped blowing and all of a sudden there were no electricity blackouts and this created more greenhouse gases than the wind was originally designed to prevent. So grid scale storage is really the stopgap there where you're able to help alleviate this. To provide investment in technology which is too costly to be helpful. And the rest of the items, need Narita rededuction, zero emission credits, for electric vehicles or fuel cell vehicles, a national cap in trade Motel model, or different incentives around carbon capture and sequestration. I'll send you the presentation. You can look in more detail. This is a portfolio approach. I listed a number of different policy mechanisms that can help and various levels for each are really required to abate the greenhouse gases in order to solve the climate change problem. You can see here this is a McKenzie approach that shows all the different techniques. On the left side you can see that's not costly associated if it's energy related. On the left side it is about renewables that do have a high cost. On the horizontal it shows the



amount that can be abated. It will call for a portfolio approach from startups as well as policy makers. The point I wanted to close with here, with the number of clean tech corporations that have been created, venture backed companies on average generate more revenues than others. On left side you can see that the average employment for energy facilities in the renewable sector is generally much higher than that of traditional oil and gas based sectors, solar being the most obviously point where it takes 11 times more people to run a solar installation, again, creating more jobs. If you include the sales marketing efforts and installation efforts for solar that takes the number from 11 to 35 or 36 jobs for every megawatt of installed capacity. On the clean tech VC side of things, the clean technical venture expects over \$20 billion of investment in the next four years, which they expect to create 400,000 to 500,000 new jobs, about 70 to \$100 billion in revenue. So clearly, a significant amount of revenue impact and job impact, both in California as well as more globally. And then the last point that I wanted to bring up with the stern review which is a study that was born by the former chief economist of the world bank, looking at it from the glass half empty sort of things, the cost of not mitigating those issues, is expected to be 5 to 20% of GDP every year. On the policy side of things and the entrepreneurial side of things we really need to do things to impact the effects of climate change. And so again, just to summarize, there is a multitude of opportunities where in the clean tech stage it is the most broad area and most deep area that I've had the pleasure of working in and certainly allow opportunities for entrepreneurs to invest time in as well as the government and policy makers to invest time in.

>> Lt. Gov. Garamendi: Andrew, I'll let Tom get started on his and hopefully we'll have time and get to the mayor and answer some questions or before the mayor comes ask some questions in follow-up.

>> Mr. Chung: Perfect, thanks.

>> Mr. McCalmont: Thank you. Good morning. It's a pleasure to be here. It's a pleasure to have the opportunity to address the commission. As has been mentioned, I'm the co-founder of Regrid Power. In that capacity, I have experienced firsthand the rapid growth of the solar power industry in California over the past seven years. I am also the chair and co-founder of SolarTech, a nonprofit corporation and a member of the Silicon Valley group, I have experienced those barriers firsthand, that are standing in the way of the continued growth of this important industry for our state.

So before I talk about some of the barriers let me talk first about the solar power industry and the terrific opportunity it presents for us. Andrew did a good job about talking about clean tech in general. I'll be more specific about the solar industry itself. The solar industry today is a thriving and vibrant industry worldwide. The worldwide market for 2007 was estimated to exceed \$20 billion and 3,000 megawatts and it has been growing annually for the past seven years in rates at excess of 35% per year. Although the U.S. was once the market leader in solar power we have fallen to 4th, having been surpassed by two countries in China and Europe and by Japan. Spain is number 2, Germany number 1. For those of you in who have visited in Germany it's not that sunny yet Germany has created a thriving program that is six times that of the U.S. market. Appropriate incentives to grow the industry there. Aside from its market power, solar energy is truly a transformative opportunity with the power to change the world. Let me talk about why this is the case. First solar power is one of the few forms of energy generation for which the fuel is 100% free. It simply rises every day. If we compare this energy source to nuclear power or so called clean coal or fossil fuels there is no comparison. Each of these other forms of energy generation will require us to pay increasingly large amounts of money to purchase every shrinking fuel stocks in the future. As we ride down the price curve for solar power and as traditional energy sources continue to go up in cost we will approach the point within the next decade in which solar power becomes the cheapest form energy generation there is. Second, solar power creates much less environmental damage than other forms of power generation. Solar cells are made from silicon, a nontoxic element that is one of the most abundant materials on earth. All of these materials are easily recycled for reuse at some far future date when the solar panels have run their course of life. In a world in paramount danger due to climate change, it is imperative that we invest in solar. Third and most important solar is the most democratic. Each person can make the personal decision to install a miniature solar plant. These privately owned power plants increase our energy independence and reduce our need to import costly fossil fuels. Tiny solar power systems consisting of a single solar panel, car battery and an electric light to enable their children to study in the evenings. This is far superior than the toxic oil lamp. Their children can attain a better education and as a result find better jobs. So with solar power we have an energy source that creates the perfect confluence of circumstances. A power source that is abundant and free, reduces the effects of climate change, provides energy security and independence and creates new jobs. How can we do anything less than everything in our power to support and encourage the growth of

this amazing technology? In addition to the moral imperative there is an immense economic opportunity here and Andrew alluded to that. The worldwide energy industry is estimated to exceed \$14 trillion today. We thought the Internet revocation was great for our state and that was an economic opportunity in the mere billions of dollars or hundreds of billions of dollars. Solar power can deliver economic opportunity and new jobs far beyond any industry we have seen before. It has been estimated that each 1 megawatts of solar power creates seven to 11 new jobs. For traditional new energy sources that ratio is two to three new jobs. These are jobs of place. They will never be outsourced because they involve building power plants right here in our state. They are jobs that pay good wages and benefits, middle class jobs, green collar jobs. These are the kinds of jobs we have had difficulty creating in our state over the past 25 years. So let me give you a sense of the potential scale here. There are roughly 11.5 million households in the state of California. It is estimated that we can convert up to 15% of these structures to solar power. That is at least 1.7 million houses we have the potential to convert to solar power. If we estimate 2.5 kilowatts which is typical, then that represents 4300 megawatts of new generating capacity and over 500,000 new jobs just in our industry alone in the next ten years. There is a problem with this rosy picture however. There remain enormous barriers to the proliferation of solar power in the state. We need investment, not just a financial one. We need an investment in progressive policy. We must tackle issues such as training new workers some simplifying, and reducing paperwork associated with these systems. The reason that an unsunny Germany represents a market opportunity that is six times our own is because Germany has tackled these grass roots challenges and dealt with them. To install a solar power plant on your home in Germany you will fill out and sign a one-page form. To do the same in California today you will fill out and sign over 40 pages of form. It is as complex to fill out the forms as it is to purchase the equipment. We are an environmental movement that kills trees. The time frame it will take for your system to be completed from start to end is 26 to 52 weeks. Yes, it will take over half a year, from the time you sign your paperwork, until your solar system is installed and interconnected to the grid and your rebate has been paid. The actual installation time for your system during those 26 weeks will only be a few days. So all the rest of that time is permitting, paperwork, interconnection, and bureaucracy. So the two days, as a ratio of the six months, is a cosmetic adornment on a Porcine animal. Yes, indeed it's lipstick on a pig. SolarTech was formed to tackle these challenges and it was conceived from the beginning as a collaborative effort. We must bring all constituent groups to the table to tackle these issues. This includes manufacturers installers building departments utilities, workforce partners, educational institutions, financing partners, and governments. By sitting down together at the same table and working on these issues, we can craft solutions that will work for everyone. So let me talk about some of the challenges we're tackling and suggest specific policy steps the commission and our state can take to reduce obstacles to solar power. Every one of these issues relates back to jobs creation and economic opportunity. One of the biggest opportunities for opportunity is in the area of building permits for solar power systems especially for residential systems. I find that many people are not that familiar with building permit processes, so it will be helpful for background. Jurisdictions are responsible for building permits, meaning every city, county and municipality is an entity amongst itself for administration, review, approval and inspection of solar power. Some cities issue permits for residential systems over the counter in a single day. While other cities or counties take that application in for review and it can take anywhere from two weeks to as much as six months to review and approve the building permit. For exactly the same system, on exactly the same type of house, on exactly the same type of roof. This additional delay requires many additional steps and drives up costs, both for the city, for the solar installer and for the customer. Building permits and inspectors exist to ensure public safety, and we do not propose that they do anything less. But surely if one city can ensure our city through a one-day review and approval, every other city can aspire to do the same thing.

>> Excuse me, what city does it in one day?

>> Mr. McCalmont: There are several. The one we are in today is one day and I'm guessing on others. I can't specifically guess on Fresno.

>> Lt. Gov. Garamendi: San José is one.

>> Mr. McCalmont: San José is one. SolarTech has developed a simplified one-page form. This proposal takes into account all the necessary safety factors, electrical design, roof analysis and site detail. It has been vetted and reviewed for the foremost authorities on solar technology nationally. We suggest that such guidelines should be adopted statewide.

>> Lt. Gov. Garamendi: You mean, there ought to be a law?

>> Mr. McCalmont: Exactly. Second, cost for the permit very wildly, some progressive cities have reduced or even eliminated their permit fees for residential systems while others charge over \$1,000 for the same permit in their jurisdiction. The reason for this disparity is that cities are in budget crisis and they view building permits as a revenue jet raters. But we will create far more economic opportunity for each city than \$1,000 permits will. SolarTech has recommended that permits be, for most cities would be less than \$300. We suggest that such standardized cost should become state policy. If the state mandated such a cost based approach and contingent on conforms with the policy, this simple step would drive down the cost of solar systems to customers. Utility interconnection standards ask another area slowing the adoption rates of solar power. That refers to the electrical connection between the power system to the grid. There are at least 60 major utilities in California each of which has its own guidelines, its own forms and its own processes for interconnecting solar systems to the grid. There are no standards across utilities so solar installers are left with the task of managing these requirements for each individual utility. It would be good state policy to work with installers and building departments to mandate a standard, a form and a process for bringing new solar processes online.

>> Lt. Gov. Garamendi: Tom, before you move on, is that realistic? Can we really do that? What would it take to do it?

>> Mr. McCalmont: I think by working with utilities, getting them together and agreeing on a set of electrical connection standards and a form that everybody could sign up to, I mean electrically there isn't any difference from one utility to the next.

>> It's all the same stuff.

>> Mr. McCalmont: You're connecting the house to a grid in the same way in every utility, it's a matter that they use different forms. Some of them have ten-page forms and some of them have one-page forms.

>> So this isn't an issue much Andrew's folks wanting to fund a different direction, you're saying no matter who the --

>> Mr. McCalmont: No matter who the technology or connections.

>> They would be delighted to have a single standard?

>> Mr. McCalmont: Absolutely.

>> This extends beyond solar. Each utility has a different process, time line, different ways of pushing back. And some uniformity would be great.

>> Mr. McCalmont: Could be resistance by some utilities. PG&E has been supportive of solar but not all utility has been. It comes back to building codes and this is a very slow-moving part of our society. I'd be happy to talk about that specific issue in more depth if you have an interest or any questions. Let me conclude by talking about one of the most important barriers, the training and workforce needs and the opportunities for solar power. Everything I've discussed so far does impact workforce. Because we cannot create the jobs as fast as the market is capable of growing if we're turning around and limiting that growth with bureaucratic processes and that's what we're doing today. But the training burden itself is also a significant challenge for our industry. There are over 700 solar installation companies in the state. Most of those are small businesses. There are very few training programs for solar workers that are available today and there are few standards for administration of the few programs that do exist. So each of the 700 companies has to bear the bulk of the training burden themselves. It can take up to a year to train a solar installer or a salesperson so this training burden is substantial on these companies. It takes about three months of training just to assure the workers can be safe on the roof. It takes a balance of the year to become experienced enough to perform quickly and without errors. We are an industry that has few experienced workers so virtually every worker is transitioning from another field and learning to build or sell solar power systems for the first time. So let me just tell you a little bit about the jobs and the skills the industry needs, solar installers are construction workers. But they must represent multiple trades and they have to have a command of a complex array of skills, not just electrical skills. In addition to electrical they must have structural, mechanical roofing and planning skills and they must be functionally literate in math so they can understand how solar panels can be fitted into complex roofs. The sales techniques and the technical requirements that makes solar work in each roof. The systems have to be in the sunlight to produce power. The engineers must learn how to measure shading and mount on different roof types and must perform site surveys and assess electrical tie-ins. Highest skill level and highest knowledge level, they must be able to understand the building codes and how these apply to assuring the safety of the solar systems, solar knowledgeable technicians are needed not only by every city in the state but every solar installation company. In addition to these, which represent the bulk of the employment opportunity in

solar, there are large numbers of jobs in project management, construction supervision, permit preparation, engineering, CAD design, marketing and finance. Each of the job categories I have mentioned are without adequate training programs to support the growth of the industry. This is a role that our community college system is ideally suited to. SolarTech in collaboration with six local community college districts has already taken local action to alleviate this shortfall. We applied for last year and were awarded a state IDRC grant, that stands for industry driven regional collaborative grant, basically a grant that the state gives to community colleges driven by the needs of industry. And that grant was for training solar installers. That curriculum was developed last year and the first classes were given this spring at both San José city college and at Cabrillo college in Santa Cruz.

>> Lt. Gov. Garamendi: Where do those grants come from?

>> Mr. McCalmont: Through the community college. So we are now into our third quarter of classes. The program has already graduated over 50 new solar installers. And Brian Crother was one of them. This is just to scale, we need to extend such classes to broadly deploy them across the state and our local effort could serve as a model. We will need to develop local expertise, photovoltaic in the Bay Area, photothermal else in the state, and wind power someplace else yet. We need curricula and state standards for employment and certification. More importantly we need train the trainer classes because there are so few solar instructors who are qualified to train the classes. Now is the time to make an investment, the solar power industry is full of promise for the state and technology innovation, in energy independence, in growing economic opportunities, and most port in -- importantly, in middle class job creations. We must overcome the barriers, to bring this industry to scale. The industry cannot solve these chance on its own. It will take public and private partnership and it will take good policy initiatives. The types of problems I have spoken about are thorny issues that will require new ways of thinking and receptivity to new ideas. California has an opportunity and must invest now in the energy economy of our future. Doing so will ensure nothing less than our ongoing position of energy capital of the world. I'd be glad to have any questions.

>> Lt. Gov. Garamendi: Thank you Tom. A quick follow-up to you and a broader question I'd like to start with Andrew on. When you talk about the curricula, it sound like the industry itself has spent a fair amount of time developing its own training materials. Have you looked at creating a standard program that you could then work with the state community college system?

>> Mr. McCalmont: The curricula that has been developed is largely specific to the companies. The work that I talk about that SolarTech has done with the community colleges, could be a model for deployment on a broader basis throughout the Community College system.

>> Okay. And then for both of you, but I'd lead off with Andrew, we have a couple of appropriation that are currently out there one is prop 10 I believe. Could you speak to how this will benefit or hurt either the proposition might benefit or hurt your industries and your efforts?

>> Mr. McCalmont: Yeah, if you can refresh my memory on that 3.6 and the 1.4, the specific allocations.

>> I probably can't so --

>> Let's come back to prop 10. We'll pick up a piece of knowledge and come back to it.

>> I'd be happy to comment on prop 7. It sounds like we're acquiring a lot of renewable energy. It will not help and probably hurt the 700 small businesses that I spoke of, that are installing these systems are going to be hurt by this. Calcea has taken a position in option of prop 7. I agree with that It is important not to put these small companies out of business.

>> Many environmental groups are also in opposition for reasons that are very similar.

>> Mr. McCalmont: That's right.

>> It tends to skew the industry away from multiple --

>> Mr. Chair, California black chamber took a no on prop 7 also.

>> Prop 10 is more on the fuel side of the equation and deals more with fuel, particularly with CNG. We'll come back to those. One of the things I want to commission to be aware of is the discussion today has really focused on the extraordinary opportunities that exist for California to transition away from the petroleum and carbon based fuels to renewables of all kinds. And perhaps, if Andrew and other investors and researchers are able to figure out how deal with the problems that the carbon-based fuels present, specifically the necessity of sequestering carbon, that, too, may be an option, less so for California than those coal producing areas of the world. But to get there, both Andrew and Tom have spoken to what we come to call stop signs and speed bumps on the way to a green economy. And in different ways, you've spoken to that. One of the things I'd like the commission to consider in the meetings ahead is the identification of the stop signs and speed bumps which both of you have spoken to, and then the policies

that would ameliorate, reduce those or eliminate those. And both of you have really come up with some directions that might be very useful for us to pursue. And then to try to drive forward with more specifically policies, regulatory changes, laws, there ought to be a law, those kinds of things, that we could recommend to the legislature in the coming session. And they are numerous. We could probably fill a good portion of next year's legislative agenda with changes. So let's have a discussion on that, we'll start with Danny and then Aubry.

>> Mr. Curtin: I just want to suggest that there are two different approaches.

>> Lt. Gov. Garamendi: Danny, pull that microphone up and be assertive.

>> Mr. Curtin: That might be a problem.

>> Lt. Gov. Garamendi: We can handle that.

>> Mr. Curtin: I'm sure you will. I suggest there are two types of stop signs and speed bumps, without political content, such as issues on permits and others that require you know some serious heavy lifting politically. And you mentioned carbon sequestration. Which I think requires a complete review of our like forestry policy in California. Because the greatest carbon sequestration is from forests and healthy managed forests.

>> Lt. Gov. Garamendi: The carpenters want to cut down trees.

>> Mr. Curtin: We do. But if you don't cut them down they burn down. You do more carbon pollution to California because of the fires than the entire automobile industry for six months. But certainly, the idea of simplified process, and a unified process to get these things on roofs, however, I'd caution you about trying get a statewide, sort of, set of -- it would be better for the industry to figure out what the training needs are, to put these things on, than give it to the state to sort it out. Because you'll run into the political infrastructure that exists today. And I'll just give you an example. Electricians union will have a certain set that they'll want to see and the carpenters will have a certain set of you know installation guidelines at a they'll want to see and the roofers, so on, so forth. The industry needs to come up with the proper set of detailed needs and then push it through the political system.

>> Lt. Gov. Garamendi: Tom, could you comment, come back to Danny with a comment on his comment?

>> Ambassador Nassif: I just want to say, you've mentioned five or six overlapping crafts and that makes a lot of sense. Is there a predominant sort of set of member skills that are necessary because from my perspective you don't really need to be an electrician to install the system. You need to be an electrician to make sure it's hooked up properly and skills to put it on the roof properly.

>> Mr. McCalmont: The system is a mix of skill. The system is efficient if it's assembled properly. There's a design how they're put together. Likewise, people don't want to hire us to put on their roofs if their roofs leak.

>> Ambassador Nassif: But the designer doesn't.

>> Mr. McCalmont: The worker needs to execute that skillfully. It has to be attached properly so wind doesn't blow it off the roof so that's a structural detail. All those skills are important. I do agree with your point, industry could help drive curricula, it should help dry the curricula. We're not looking for the state to come up with that for us but where the state can play a role is on unification of those systems throughout the state, sort of certification of the teachers, certification of the workers, those kinds of roles are more appropriate to government.

>> Lt. Gov. Garamendi: Aubry.

>> Mr. Stone: A multiple of things. One thing, no disrespect, junior college system. We understand what's been put upon them in terms of career, tech training. But I think you know, we need to take a hook at a private-public kind of approach to this thing. Maybe some CBOs getting involved, not just putting it on the junior college, same on all the trades. I think it's going to have to be a multiple type of approach to it. But secondly and that's quick, back to you Andy, on AB 32. Which is literally driving everybody crazy in terms of implementation. And how it interfaces with all these activities and stuff like that. If you guys done an analysis on AB 32 and the scoping requirement on that piece, to see you know, what is the best implementation? Because small business, we're seeing a lot of things, how it's going to have a negative impact on small business activities, if we don't implement it right, et cetera, et cetera.

>> Yeah, I wouldn't say we've done a direct analysis of ROI for each of the different pieces that can lend into it. But the pieces around AB 32 is, it's a very daunting task to reduce the amount of GHG down to 1990s levels. 30% reduction below business as usual. Similar to what I talked the about during the presentation, you need a portfolio approach of a lot of different pieces in order to contribute to the overall reduction to that 30% down level. What we have done is to look at ways to work with some of the largest

GHG producing companies to figure out how we can incentivize them to take more off a corporate wide set of initiatives to solve the problems. So one of the areas which is a pretty big bang for the buck, which relates to prop 10, which I looked up, which has to do with fleet vehicles, one of the areas where customers in the Walmarts, the USPSs of the world, have shown the willingness to invest in technologies that can improve fuel economy by 3%, 5%. They've been willing to invest tens or hundreds of millions of dollars in some cases to retrofitting their vehicles so they can just get that 5% boost so they can hopefully meet that requirement of AB 32, one of the ways for doing that. The thing we like about fleet vehicles and the way they make their purchases, it's much modifier an economically rational decision. When you try to get a lot of these companies to create products that consumers might buy to help reduce the emissions footprint, again it's very hard to convince them to make those rational economic decisions. Whereas if you hilt the right person at Walmart or Google or a lot of these other companies, they will do much more economic analysis around that. And so that's one of the areas where prop 10 for the \$3.4 billion that's specifically associated with fuel economy vehicles, with a significant portion targeted at fleets I think that's a very important portion because again, those fleets will actually make the analysis and figure out how that money can be used to reduce the amount of emissions.

>> Lt. Gov. Garamendi: Aubry, thank you. And Andrew and Tom thank you very much for your presentations. We are -- hopefully you can stick around. We're going to hear from the mayor of San José here in just a moment. Your presentations have given us I think a sense of direction. And we will be discussing this a little more fully in a few moments. We want to add in an important element here. You're welcome to stay at the table if you'd like or if you'd like to retire, that's perfectly your choice. But from all of us, thank you for your presentations thus far and I think we'll be engaging in a discussion following the mayor's presentation and you may want to join. Thank you so much. [applause]

>> Lt. Gov. Garamendi: There was an earlier meeting this week that the Silicon Valley leadership group put on, three mayors showed up for that meeting, Oakland, San Francisco and San José. And they had a marvelous competition as to which could be the greenest. Back and forth. Mayor Chuck Reed is here to tell us, San José won the competition. We're a little bit further away from Oakland and San Francisco so the mayors of those two cities are not joining us today, in which case they could up the ante one more notch. Mayor, thank you so very much for joining us. Chuck Reed. [applause]

>> Mayor Reed: Thank you, Lew 10th governor Garamendi. Thank you for visiting San José, the innovation center of the world. My first question is how much time do you have. I know you have busy schedules, both you and I.

>> Lt. Gov. Garamendi: 15 to 20 minutes.

>> Mayor Reed: Tell me when to stop.

>> Lt. Gov. Garamendi: Ready, set, go.

>> Mayor Reed: I'm counting. San José last year adopted what I'll call our green vision. What I've discovered when I talk to other mayors, mayor Dellums and mayor Newsom, every city has got a green vision. What makes our green vision different is we've actually set ten long term goals over a 15-year period that will help us drive to implementing a green vision. I've discovered as mayor that having the vision is the easy part. Completing and implementing are often much, much harder than figure out the vision. So we adopted ten long-term goals, and we spent a lot of time trying to figure those out before we adopted them, to figure out if they are doable. Not that they're easy, but they're not impossible. And we have 150-some initiatives as we work towards trying to get to those goals. I'll just talk a little bit about what we're doing here and then touch on some of the things that we would like for state of California to do that would be helpful as we move along our way. Our first goal is to -- well, the overarching goal is to become the world center of clean tech innovation, already the center of innovation but we want to be that for clean tech. The first goal is to create 25,000 clean tech jobs. We have about 2,000 in the city now. Personally I think that's the easiest goals. In many ways we have got to get out of the way and let people like Tom McCalmont do his work. Less than 1% of the world's energy supply is from alternative energy. You can see that the solar industry can continue to grow at 30 to 40% for a year for a very long time and create a lot of jobs as can wind and other alternative energy. So I think if we can get out of the way and allow that to happen, we'll probably get the jobs without -- you know, that will be early on, I brief, having seen that kind of job growth here in Silicon Valley over years past. But we also want to reduce our electricity consumption, power reduction by 50% and get all of our energy from clean energy sources. That goal is why we have a 15 year plan. Having talked to the Department of Energy and other smart people it is going to be hard to get there within 15 years. That is what's the most difficult. Because no matter how much solar power Tom and those are come up with it doesn't work well at night and wind

is unreliable, you have to deal with pumping water uphill and lots and lots of ways that are being developed. But we're confident that Silicon Valley will do the research and development to figure that out. But what I want to talk about is not the specific goals but down to the implementation and our sort of philosophical approach how we implement it at the local level. Part of what we're trying to is the research and development work necessary for all the cities in the state, the country and the world to be able to go green. And we're going to do that R&D work that's necessary to figure out how to make it easy, how to pay for it and then certainly hope people will copy us. So we start with research collaboration. At the very beginning in things like SolarTech. Tom has already talked about that. SolarTech involves not just companies but research institutions like NASA Ames, five universities, and ourselves to put that together and we're working with the Department of Energy on their solar showcase and solar city and basic research and the collaboration that goes to help on that. We are also into incubation. We're trying to incubate innovation. It's not like we don't think private industry will do it if we do nothing but want to facilitate it, we want the jobs to start here on the theory that if we start them here they're going to continue to grow here. The country's best business cluster by some standards, we have the biocenter which is a very unusual business cluster which we're hoping to double in size over the next year, we have started another one called the electronic development center which is an effort to control Silicon Valley for -- troll the Silicon Valley for an electric bus or vehicle of that size, the electronic open which isn't our idea but we're partnering with them at the early levels. And we have the testing phase, with the help of SolarTech, Silicon Valley leadership group and others, we have managed to open underwriters lab. Booked through the end of the year, the time to test was roughly a year under the old system. And now it could be as little as 90 days, helping that time to market, the whole innovation cycle. We are working on demonstration partnerships. It's great to have a prototype but eventually you've got to put it out in the real world. We've developed specific policies Santo to allow us to use our land our facilities or data our customers whatever would work with private companies to help develop a product that we ultimately would like to use, but to start out with some tests, some pilots, one example are the smart street lights that we'd like to have. We actually have some up in front of City Hall, as the beginning of a collaborative effort on demonstration projects. We have one with Colloom, somebody needs a place to plug in those electric vehicles. We'd like to do it with our street lights. We have a demonstration partnership with them to figure out how we can do it with our street lights. We also were fortunate to land the site for the photovoltaic development center, a company called SVTC, which is essentially a foundry kind of company so you don't have to own all the equipment for yourself, your company when you start up, you have a place to do some development. And then we're doing facilitative development with production, special tenant improvement programs, so if somebody decides to move into one of our empty buildings which we're happy to have them do, we can issue the tenant improvement permits in an hour, instead of a month or longer in some case like it used to be in the old days. And when someone has 100 million of industrial tools delivered to their building to install to manufacture solar or something, we're there when they arrive, and we can issue the permit immediately so we don't have all those assets waiting for the government to act. We have an enterprise zone, tax credits and other things available in an enterprise zone. We have nanosolar are some of the companies that have moved into San José and expanding as a result of some of these programs. We are also working with sun power, of course the producer of the world's most efficient solar cell is in north San José and we're working to make sure that when they expand they stay here and develop here. We are working with other companies on our smart street light programs, on the environmental cluster, many other places, many other companies to help them as they begin to do their own research. And then the latest opportunity which wasn't part of the plan but knocked not too long ago on the door, was Tesla. The government made it possible for Tesla to not go to New Mexico, to stay in California, to stay here, grow here. And we thought that we ought to be considered as a site for Tesla. And so we have put together a team of people and working with Tesla because we think we've got the best place for them. And that's not something that we're thinking of a year ago but it's an opportunity. And we have the ability to put together a team of experts that can handle development and deal with all the many, many issues that go with that kind of a project and get it done in a time frame that Tesla can live with. Because we've done that before. We also have to worry about consumer adoption because there's those are wonderful products but consumers won't buy them or adopt them if they don't go anywhere. What I did was launch the mayor's solar project competition. Solar for free, free cells. If you want a free cell phone, you just have to sign up for the two-year plan. There are no free cells so getting consumers excited about solar, I think eight of the companies paid up with a way to get it for free. There is essentially no free lunch some but you can pay for the savings out of free electricity bills. Permitting and processing and inspections to make

it easier for consumers to do thing. If I go back to Tesla for example, whether Tesla wins the race or Nissan who is coming out with a battery powered power or the General Motors Volt the, whether they are in the race, somewhere you have to recharge the place somewhere other than at home. There is an infrastructure that has to be build by government for charging stations. Maybe it will be in the street lights, maybe in parking garages or other ways. Bee have to look at infrastructure to be prepared for the electric car to have places to replying in. How hard is it to get the permit to add the charging station to your house, will that take you weeks, months or can it be a point of sale? Can when the car dealer sells you the car can they apply online for permit and they give you your ignition and away you go? That's what we have to done the consumer side. We're in charge of that. That's what we have to do. Only local government can solve that problem. Then we're trying to do it regionally. No matter how better communication we have we'll get better in the region. We're working with the Santa Clara County cities association to get joint building standards, joint venture Silicon Valley to do as a whole green initiatives and other things and another little project that we talked about at this conference that the lieutenant governor was at, the Bay Area climate change contract with San Francisco Oakland San José agreeing on some goals that we hope to sell to cities in the region and ultimately all the Bay Area so all the cities are focused on similar goals. We're looking at performance, installation, connection, workforce and financing, all those issues have local components that we can work on. Now, I get to our legislative advocacy because back in December of last year, we called and held a solar summit of sorts with our solar companies, and people involved in business coming to talk about what are the impediments to success that you see, here in this area, that we can help you with. And we came up with 13 legislative agenda items, and some of those are local and I've already mentioned some of those. Some of them are state and some of them are national. Nationally it's clear that without a doubt the renewable energy tax credit is one. And unfortunately, Congress, even though everybody is excited about it, we've not yet gotten a bill. It's hurting the industry and still number 1 on the list. But at the state level, I think our biggest impediment is a category that I used, when we were at the conference and that was bureaucratic inertia, that a lot of the ideas that we have of things that we would like to do require us to go somewhere to the Public Utilities commission and get the rules changed or to the state legislature and get the law changed. And we're happy do that. That's the process but it does slow us down a bit. Because we're talking about doing things differently. And the way we've always done it needs to change, in order to facilitate the development of these clean technical industries. And I can biff you a couple of examples. We have a piece of legislation that has been through the legislature and it's in that stack outside the governor's door. It's not been given to the governor yet, he's not in a signing mood, hope he's getting there soon, AB 2066 will which allow government entities to put a solar installation on say a parking lot or park garage and then use that electricity elsewhere for this building versus the park structure, you can get a lot more energy out of a parking structure than you really need. We have to be able to transfer it. Now we have a legislative solution to allow us to do that. But it's taken us a year. That whole process has slowed down a year. The great idea that Berkeley had to have basically assessment districts for anybody who wanted to put solar in a house to finance it, there is legislation pending on that too. A lot of these situations do take legislation. We have help with various parts of state government to help us through that legislation to get it through the process, to get ahead of the industry a little bit so when they're prepared we've made it easy for them to do that. And I think I'm just out of time.

>> Lt. Gov. Garamendi: You're doing well. We'll give you another whatever you need.

>> Mayor Reed: Okay.

>> Lt. Gov. Garamendi: You're marching down a street we want to march with you.

>> Mayor Reed: I want to close on the state legislative agenda kinds of things. We're going to have another summit in December where we'll talk broader about solar --

>> Lt. Gov. Garamendi: Mayor, let me interrupt you a second, so you know you're talking to the right place. The specific reason for the Commission for Economic Development to exist by law is to advise the administration and the legislature on policy.

>> Mayor Reed: We love that.

>> Lt. Gov. Garamendi: So keep going.

>> Mayor Reed: Okay. So as we identify items in December about clean tech as a whole, not just focused on solar this year, we'll come up with a legislative agenda that is not the city speaking, it is really the industry speaking, saying these are the things that we think need to be done in order to facilitate clean technology. I know the slide that was up on the screen here, I'm sorry I missed that presentation, it looked pretty interesting. Because while I've talked about solar and the creation of alternative energy, I know that



the cheapest and the quickest form of energy is conservation. And that's another interesting story in Silicon Valley. That the innovators have turned their energy to conservation. The example I'd like to use is Fairchild. One of the oldest company in the valley, when I went to meet with their CEO, Fairchild has a new widget. They've got a controller that will allow electric motors to run with a 40% energy savings. So we have one of the oldest companies in the valley moving into a new area, and into clean tech. And I think that that's going to happen over and over again. Because I find it in companies over and over again, that on the conservation side, and I think that's perhaps a little bit overlooked with the excitement over solar and wind and biomass and everything else that on the conservation side there are tremendous opportunities. I can't tell you what the impediments are to those conservation measures but that's in December we'll be discussing when we talk to those companies. That's it I'll stop.

>> Lt. Gov. Garamendi: Mayor, congratulations to you and your city, your leadership. You really are a leader, this area is a leader and the city is also. What you talked about Tom or Andrew picked up one way or another. Let's have some discussion. I think we've got some business that we need to do, but nothing more important than the business of learning. Aubry, you can start and around and around. You guys can talk amongst yourself.

>> Mr. Stone: Mr. Chair, just how quick, how, after listening to all the conversation this morning which was intense and enlightening, I get the distinct feeling that we're somewhere at the mid management level, trying to get a top echelon Congress. We're in the midst of a presidential election, we don't know how that's going to go. We're at the point where this should fall into line with the space initiative. I mean something from down high has got to come down and just move the masses on this thing. You know, not just spiritually but right to the bone. And maybe that's something maybe the mayors, through the governor, our recommendation, that we can push into the new -- into the new presidency, that this has to come down at a national level and say, this is the initiative for the next ten or 15 years. And we're going to put all the silliness aside and make this project number 1, 2 and 3. Is that realistic?

>> Lt. Gov. Garamendi: My wife keeps telling me, Patty that this is the moon shot for this generation. Gentlemen, what do we need to do --

>> I couldn't agree more, commissioner. This is our impairment. Earth is going to keep going but we may not be here if we don't take action. And you know, Vice President Al Gore has proposed a ten-year plan to move aggressively on this issue. We need to have --

>> Lt. Gov. Garamendi: Would you put the CO2 temperature chart back up?

>> That's pretty impressive.

>> I think it's the one on the right there.

>> Lt. Gov. Garamendi: The thing that's fascinating among other things is, that blue line always at the peak always exceeds the red line, the red line being the CO2. And the blue line being the temperature. If that isn't the reason for our new moon shot or --

>> Mr. Stone: I'm just to the point that I think as a lead state, with innovative cities, with a proactive environmental council, that we should kind of pen it, put it to paper at least give them, you know, don't leave it to the bureaucracy to put it together. I mean, it is what it is. But we want to say, we should be the one to say it, present it to the governor, have him present it for us. But to say here, governor, put something together, I mean, we might be stretching just a little bit.

>> Lt. Gov. Garamendi: Andrew.

>> Mr. Chung: This is a top down, bottom up, every way you approach it. Portfolio solution. Technology, different levels of government that are affecting the change. I think mayor Reed has done an incredible thing for San José. Scion is one of our companies and we chose San José for the reason of the right environment being there. I think you know, California internally needs to get support both at the local, the state level, of getting initiatives, continuing within California, but then also as you mentioned spreading that learning to other states as well. I mean, it's pretty undisputed that California and then a couple of other select states are really the progressive leaders in this movement. And it really does need to fan out from here. And I think to the extent that the governor and lieutenant governor are able to spread that to other states and use California as a blueprint for other states to follow suit, and hopefully the way the federal election shakes out, adding that to other issues like national cap in trade policy or other GHG --

>> Lt. Gov. Garamendi: Or working with other countries that we have yet to do.

>> Don't get so optimistic.

>> Lt. Gov. Garamendi: Let's work at the state level and use at the three plus, those are us around this table, we have an overarching state policy, AB 32. It seems to me that the next step is certainly the implementation of the large AB 32 issues, which are seen with the air resources board, setting the goals,

and then cap in trade, and other things that will follow. But along the way, there are all of the other pieces that cannot be neglected, many of which have been discussed here already. Some of them having to do as mundane as drawing a permit. And now we have a city that has a solution. Apparently, you can get it in a few hours, here in San José. But not in every city across the state. So these would be best practices. Danny raised another issue, which is the issue of different skill sets. And the kinds of troubles --

>> Mr. Curtin: It fits into something I wanted to say in general. The way the government, bureaucracy does business is not prepared for the speed of change that's necessary for this economy.

>> Lt. Gov. Garamendi: Exactly right.

>> Mr. Curtin: I'm familiar with the construction industry and the models you present do not exist in the state of California. I've got certain thoughts but at the same time I can't wait for the cavalry, you can't wait for the president or whoever it is to figure this out. I think the best thing that has happened to this, aside from the scientists continuing to build, that gasoline went to \$5 a gallon. It's going to drive it that way. Can you talk a lot of ideology but as soon as Green is \$4.50 a gallon, people want an electric car, they stop driving, the airplane industry, the airlines hurting. That's going to drive this as much as any ideologic conversation we have.

>> Mr. Chung: That's a great point. I think Mayor Reed actually also made it. The bureaucracy is not willing to keep pace with innovation. There's so many great investments that we've looked at where we end up having to put the brakes on because we say once you guys get that regulation passed then we'll come back and talk to you about the \$5 million you're looking for. A lot of times that lack of predictability regarding the elect of time that the legislation takes to be passed is putting a lot of the brakes on that.

>> Lt. Gov. Garamendi: An example is 2466. 2466's purpose as I understand it is to override a long standing PUC policy about how power is to be distributed, who is to buy and where, for example, the power is going to be used. The PUC started a couple of hearings seeking in their normal process, it's about a four-year process to make a change.

>> Right.

>> Lt. Gov. Garamendi: And hence, 2461 --

>> Mayor Reed: That's cycle time in San José, we're like four months.

>> Lt. Gov. Garamendi: So the institutional mechanisms that have been in place forever, that lead one step to another step to another step, those of you who are working on it go, but it's pretty simple why do you need to do all of it, Tom.

>> Mr. McCalmont: For the building codes, is ten years. All of our infrastructure has been developed over the last 125 years and it's all designed to move very, very slowly, glacially slow. It is not a match for this kind of innovation nor is it the match for this kind of problem, the challenge. We need a way to break through and make these changes occur much, much swifter.

>> I have a question for the mayor because to a certain extent it sounds like at the local level and to the extent you're able to control that much of the infrastructure in the bureaucracy you have actually been able to solve these issues. You also mentioned that you're looking at, and have I suspect gun to effectively move it beyond one city to your whole Santa Clara regional group of cities. My question goes to other cities and I suspect that Ashley is interested in this as well. What's the possibility of dealing on a cross regional basis, join up with a, for instance, San Joaquin company? My view is that's ultimately the way the state gets conquered. If we have enough regions together, all of a sudden we have a state policy. Have you looked at this as a way to deal with this?

>> Mayor Reed: We have, San José, Santa Clara County, Bay Area, we're thinking bigger but getting the answer, once you have the answer and it's easy it's much quicker to spread it out. And let me just add one more thing. One of the reasons we're really excited is the tremendous upside for Silicon Valley of this industry. But we're also excited because we know that it doesn't necessarily have to happen here. That we can buy solar equipment from Germany and Japan and Spain. And they're ahead of us. So we're trying to catch up. And to ensure that this industry that's -- that stays here and grows here. And that's just a problem. We're competing with the world. And we don't have time to wait for four years, for some rule to change. Because they've already changed it someplace else and we're competing not on our turf but on their turf now trying to make sure our companies don't go to their countries for production and manufacturing.

>> So what can we do?

>> Lt. Gov. Garamendi: As a commission?

>> Yes.

>> Lt. Gov. Garamendi: I think what we can do, as -- in the next three months, develop an agenda of specific legislation that we would want to support. Secondly, a specific agenda of regulatory changes that we would want to support. Several of those have been discussed by the three witnesses here today. There will be others undoubtedly that will be developed in the next few months. Many ideas have already been submitted in the legislature. They didn't pass for one reason or another. We could go back and review those. What I would like to do is to develop an agenda for our next meeting, away -- I just love the term stop signs and speed bumps and present that to the commission for adoption. Many ways to do this. First, rely upon the commissioners, your ideas. Suggestions that you might have. Secondly, the cities, I know that the mayor and the other cities that are in the forefront of this, have programs and suggestions. Obviously, the high-tech community has, Tom has. We need to solicit those ideas. I'm curious if we might be able to attach ourselves to the summits that the mayor talked about, a specific summit here in Silicon Valley. There are others going on. There is a report coming out that I actually suggested to the public policy institute, that they do a survey of cities. That report is coming out this, I beef, this month. There will be best practices, that may be thwarted by regulation, or state policy. These are the things we can do. All of which would say that early next year, our next quarterly meeting is, I suppose, January.

>> Well, we actually have a meeting that we're going to have in December, where we will approve the recommendations that have come out from specific industries in various advisory group, will have at that meeting a preliminary package if not a package that we want to go forward with on these particular areas. I think the short answer to your question, Demos, is that we can give focus and articulate very specific places where, in the vernacular, the state can get its biggest bang for its buck. What are those things after listening to this that will make the biggest difference. Because as we know, the legislature is capable of thousands of pieces of legislation. So the role we can do is try to --

>> 4,000 a year I think is the average.

>> So the role we can do is really to focus on and identify those particular ones that will make a real difference.

>> Lt. Gov. Garamendi: To accomplish that, a couple of suggestions from me and then let's go around the table. First we have three people that are intimately involved in these issues, one from the city level, the venture capital and the implementers. How about your top five priorities of things that must be done by the state. We could do that now, but why don't we get a list. Some of this is in your testimony already presented. Some of the it may await the summit here in this area. But if you could get that to us, we'd have a pretty good array, on this issue. And so your top 5. Whatever detail you have. But the executive summary is always appreciated. Okay? Other suggestions, Tom?

>> Ambassador Nassif: Well, it just seems that when we talk about what Top 5 priorities are, it would be happy to note that they are not dependent on local action or federal action. All we're constituted to do is make recommendation at the state level.

>> Lt. Gov. Garamendi: Fair enough, other suggestions? I think it's time for us to move along here. I know I could spend several days right here with this array. Danny.

>> Mr. Curtin: If I could push some pet ideas I like to push any time I can.

>> Lt. Gov. Garamendi: Here's your chance.

>> Mr. Curtin: If you would put into your list the training and workforce needs. I know it was mentioned in one point of your presentation the need for public-private partnerships. I think that's where the innovation has to come. The state doesn't necessarily have to think of everything and pay for everything. Industries that have unique career technical needs, educational needs, also need to think about how to step up to the plate for centers for engineering excellence, but all of the subcommittees that we're working with would sort of put those two thoughts into their proposals, they're so fundamental to the economic growth, attracting private capital, we have a 25% high school dropout rate, I think I read it the other day. It's frightening, almost embarrassing. If we had some way to train people to get into these jobs we would have some serious business here.

>> Lt. Gov. Garamendi: Virginia.

>> Ms. Kiraly: I think it's always easy to say what we need and I know that the three of y'all understand that in Silicon Valley some of the most creative solutions come from limited resources or the best thinking and the forward-thinking. So what you don't need I think is something that I would like to get hold of, as well. Thank you.

>> Lt. Gov. Garamendi: I believe it's -- our agenda would call for a very large thank you to our three panelists, thank you so very, very much. [applause]

>> Lt. Gov. Garamendi: Maybe next month you'll have that list to us?

>> Mayor Reed: You can have it tomorrow, if you need it. Monday will be fine.

>> Lt. Gov. Garamendi: Thank you so very, very much. We're going to continue on. I'm going to turn it over to Rick, we have an agenda, this is our working session and we have things we need to complete here.

>> Ex. Dir. Baum: The beauty of my task is I can control the time it takes. So I will control it very much. I wanted to just update you a little bit on some activities the commission staff has been involved in, and other -- and lieutenant governor has been involved in in the last several months since May. We partnered with Solano County to organized an economic development round table in eating with business had readers in which the lieutenant governor was the keynote speaker can many organized a waste management policy meeting that featured the deputy city inering of Taipei. And if you ever want to know how to manage waste, the best way to -- or the best people to look to are the people who are running out of space. And apparently Taipei is not as big as they thought it was. And as a result, they have put in an incredible waste management program. We had a goods movement international trade advisory meeting in August, and then attended the board of governors conference in universal city that the administration was very helpful in inviting us to, and found it to be really a superb set of presences. The production in February, to be able to get it out in February, we will begin to develop the materials starting next month. And as I mentioned earlier, at our December meeting we will expect the advisory committees, since they developed it, will present to the commission their recommendation on various economic development policies that they feel they'd like the commission to consider. We will vote on those at the December meeting and then include them in the annual report which, as you recall, is one of our primary ways of communicating. We have also put the CED Website at what I believe is [www.CED.CA.GOV](http://www.CED.CA.GOV). It is being populated, I believe is the term. We have some request run coming events. One is, you should have received notice of the U.S.-Hispanic chamber of commerce meeting. The chamber is holding its national convention in Sacramento, commissioner Barreto will be a part of that and it will be a really excellent, excellent meeting to attend. Additionally, I've been asked by a couple of commissioners about this. The CED trade mission to China is scheduled to occur --

>> Lt. Gov. Garamendi: Rick, could you hold up a second? The national Hispanic agenda is nearly complete, three-day conference I believe Hector?

>> Mr. Barreto: Yes.

>> Lt. Gov. Garamendi: You have programs you're working on. What are those programs?

>> Mr. Barreto: First of all, this takes place every year. you have Hispanic delegations from all over the nation. U.S. Hispanic delegation represents about 250 individual chambers and the interest of 2.5 million Hispanic owned businesses. There will be a number of different, you know, focuses, obviously, the members are very interested in economic development opportunities. They're very excited about your presentation that you'll be making on Thursday morning. There's international trade tracks. There's convention center exhibits. There will be some major corporate participants there. Latino coalition which I chair, Usacc is one of our members so we're hosting a representation for a lot of the VIP, would like to invite you to come at the Hyatt hotel, goes through Saturday evening for their gala dinner. If you haven't been it's a great networking opportunity, lots of centers of influence representing government and corporate will be in attendance.

>> Lt. Gov. Garamendi: Website will be able to give the information?

>> Mr. Barreto: Sure, Usacc.com. Some people might want to go to only one event, not all of them. You can get a lot of information on their Website. Worst case scenario, you can show up and I'm sure they'll make accommodations for you.

>> Lt. Gov. Garamendi: These programs are annual, I know Aubry you have an annual one. When is your event coming up?

>> Mr. Stone: Just finished, Mr. Chair, just finished in August. Our piece was on green technology and business opportunities in that arena. So I mean, this is right along the same track. I mean, it was just trying get our arms around this thing so we're not left at the train station when everything takes place.

>> Lt. Gov. Garamendi: My reason for bringing these up is all of us in one way or another are engaged in these annual events. Hispanic, so forth. And I know agriculture does also. If you know of an event or you're sponsoring an event you get it to us and we can disseminate that information among the commissioners. And more easily involve all of us in that. Rick if you will continue on.

>> Ex. Dir. Baum: Sure. Where I wassen was on the trade visit to China, between the 8th and the 18th. You have -- you should have all received a copy of the itinerary. Key industries, one of which is

agriculture, we're focused on a number of different subsets of the agriculture industry. Michelle is the person to stay in touch with, if you want any further details, and become a China hand in terms of --

>> Lt. Gov. Garamendi: The way this is shaping up, it appears that we're going to be able to make this a very substantive and deliverable event. The context presently are with the appropriate ministries in China, and we expect to be more -- we're not interested in photoopportunities here. We're interested in detail and deliverables. And I know that already several of you are involved in this one. I know that Demos, you are and Tom, and we really want to get this as deliverables. I think we are going to have to limit it a bit. And we're looking for any people that you know that would like to detail -- to get into the detail, either to do a deal or to make sure that deals can be done, for example, Tom I know trade is much on your mind, trade issues of all kinds, barriers and the like, Virginia, you've been kicking in some information on this also. I ran into a fellow that wanted to bring the sports into this -- into the discussion, which is interesting, China apparently wants to continue the Olympic flame burning brightly for economic purposes, and there may be something that is -- that that may be added along the way. Probably along tourism and that area. Virginia.

>> Ms. Kiraly: I don't know if you know this Chinese gymnast, he has got a company that is pretty much like Nike that is giving Nike a run for its money right now. That whole sports thing could be very interesting.

>> Lt. Gov. Garamendi: It could be very big and I was unaware until somebody dumped a whole load on me, why doesn't this be part of it. Seems like that could be. I was trying to get how to bet the USC -- UC football game, with not just \$5 million but a \$50 million bonus for the NAACP.

>> Ms. Kiraly: NCAA.

>> I think he was referring to the tree sitters. Are you talking about the Berkeley problem?

>> Lt. Gov. Garamendi: No, the bird nesting. Rick.

>> Ex. Dir. Baum: Our next CED meeting will be early December. We'll get date choices out to all of you and location. My sense is, I'm not entirely sure but we've had our greatest success in terms of participation in Sacramento. So we may hold a final meeting in Sacramento simply because it has a wonderful way of attracting most of you. We're now down to the -- or the actual business considerations, so I'd like hopefully you've all read the minutes. If we could entertain a motion to approve or if there's any discussion, let's get a motion first and then see.

>> Lt. Gov. Garamendi: I think, yes, we do.

>> Ex. Dir. Baum: Take a motion on the minutes?

>> Lt. Gov. Garamendi: So moved?

>> Ms. Kiraly: Second.

>> Lt. Gov. Garamendi: Any questions? Minutes are adopted.

>> Ex. Dir. Baum: We have some advisory committee members. The commissioner Vardiabasis has been very gracious in accepting the chair of the entertainment and tourism committee. We have in front of you a list of folks that we have vetted, and would become members of that committee. I'd like to nominate them and have them approved.

>> Lt. Gov. Garamendi: Demos, do you want to make any comment? I don't know if you need to go through each one.

>> Dr. Vardiabasis: No, great presentation of the industry. Of course additional members can be added eventually.

>> Lt. Gov. Garamendi: Right. We have the -- it's in the packet towards the back, and on the left-hand side. I think it's the last paper in the packet.

>> Ex. Dir. Baum: And I think this was e-mailed to everybody before the meeting so --

>> Lt. Gov. Garamendi: And it's the entertainment industry, the media entertainment industry and then the tourism connection to that, the hospitality industry and tour tourism.

>> Ex. Dir. Baum: It's a very good list of people and in our speaking with them, has shown a very active interest in them.

>> Lt. Gov. Garamendi: Contacted and shown their interest level. And shown enough interest to spend, what is it two meetings a year?

>> Ex. Dir. Baum: Yes, I should note that Leslye Tamanen will be supporting us on his work on the committee.

>> Lt. Gov. Garamendi: Okay, any questions about this? This is before us for approval. Is there a motion to adopt these?

>> So moved.

>> Second.

>> Lt. Gov. Garamendi: Without objection, they are adopted.

>> Ex. Dir. Baum: Okay, we have one other individual who would be added to the goods movement and international trade advisory committee, Roni Radavagan. Her name was up earlier, we haven't been able to contact her to see if she is willing to participate.

>> Lt. Gov. Garamendi: Not only is that the fact, but she is here. Roni, thank you for be willing to participate.

>> We have very little choice then. So moved.

>> Ex. Dir. Baum: Without objection, she'll be moved to the goods movement and international trade.

>> Lt. Gov. Garamendi: Tom, could you update us on the agriculture advisory meeting.

>> Happy to. We want to discuss at this meeting the first thing is the effect of reason the agricultural industry, and therefore we've invited a number of agency heads to come and talk to us about that. And about the regulatory burdens on the industry. Things we might be able to accomplish to lessen that burden and still accomplish the purposes and goals of the administration as well as the industry. We also want to take up the various recommendations of the subcommittees, so that we can vet them. There are a few that are fairly controversial. Most of them we have nearly unanimous support for. But those we want to take up and make sure they're well vetted.

>> Lt. Gov. Garamendi: Like blackwater?

>> That wasn't controversial at all. There was pretty unanimity on that issue. When it comes to property right, there may be some issues.

>> Lt. Gov. Garamendi: Depending who.

>> And we want to bring these recommendations for approval and recommendation by the CED.

>> Lt. Gov. Garamendi: Very good and the date is again?

>> Ambassador Nassif: October 9th.

>> Lt. Gov. Garamendi: October 9th. While each of these advisory groups is specific, all of the commissioners are welcome to participate in the advisory group meetings, even though it may not be your specific area of chairmanship, for example. You're welcome to attend.

>> Mr. Stone: Mr. Chair, before we leave ag, as there been any discussion Tom as it relates to Fed programs in international trade in the ag industry? Has had been any discussion at all in that arena?

>> Ambassador Nassif: Our agricultural committee asked that we support the Columbia free trade agreement, so we're not getting a recommendation from the CED to support that free trade agreement but we're very interested in trying to support free trade agreements where we finally see some net benefit to our industry, rather than having our industry used as a bargaining card for other industries, which has been in the past.

>> Mr. Stone: Well, you know, a lot of grant programs to the Feds in those ag industry activities down through the San Joaquin valley they could probably take advantage of Salinas area, Africa, China and whatever, that might play into the China trip in terms of the ag activities.

>> Ambassador Nassif: We have used, in fact western did a trip a while back, that is with matching funds in the task program in the federal government and that was very useful. They were very helpful and in fact the embassy in Beijing was very helpful in coordinating the meetings. When we went out to the farms, sometimes it took two or three hours to get out of there to see the practices, we discovered long ago, safety of products coming in from China, we have a tremendous problem on food safety out of China.

>> Lt. Gov. Garamendi: Point's well taken Aubry and Tom. With regard to the trade mission, agriculture will definitely be one of the pieces. Some it will be export opportunities to China. The food safety issue as I understand it is likely to be taken up. And free or fair trade is, I think, also going to be on the agenda. There will be certain commodities, for example, we know that the dairy milk industry is most interested in discussions about exporting to China, certain dairy products. Those are examples and we'll look for more of that. The way -- just a quick thing here before we move on. The way we're looking at this trade mission to be conducted is that each of these elements, agriculture for example, high-tech, quite possibly the energy issues, there will be a specific group of individuals, companies that will be interested in that group. And they will be paired directly with interested parties in China. First the governmental ministries and then, either private or quasi private organizations, companies, corporations in China. So that the pairings will be made.

>> Ex. Dir. Baum: Virginia, if you could give us a brief update on the biotech committee.

>> Ms. Kiraly: Sure. The biotech had its first meeting at the end of May. Lieutenant governor Garamendi pretty much ran the meeting.

>> Lt. Gov. Garamendi: I thought you did.

>> Ms. Kiraly: He overtook it.

>> Lt. Gov. Garamendi: I'm shocked!

>> Was that a subcommittee meeting?

>> Ms. Kiraly: Yes it was, anyway we had a wonderful discussion about how to keep the biotech industry in California competitive. That actually was the biggest concern for the entire advisory committee. A few things that came out of it that we will be putting together and recommending and giving the recommendation -- presenting the recommendation to the CED at the next meeting are the issues for the corporate tax policy, workforce recruiting, did role of universities, incentivizing R&D. We also discussed the life sciences action plan, and the committee will be looking at that and thinking it through to see how we can implement most of that, since most of the committee members felt that that was an excellent place to start. So we'll be having -- we'll probably be discussing that at our next meeting which I think will happen fairly soon, obviously before the end of the year. From there, we will just present our recommendations to the CED at the next meeting and hopefully adopt something to present to the legislature. Do you have anything to add John?

>> Lt. Gov. Garamendi: The meeting quickly moved to tax preparation.

>> Ms. Kiraly: Very quickly.

>> Lt. Gov. Garamendi: Among the tax policies one was the NOL, net operating loss issue which was in play at the legislature and the R&D tax credit. And the conversation was very, very important in that from the meeting, specific tax policy suggestions were made to the legislature. By me and I'm sure by others, assuming those in the industry. Specific the R&D tax credit moved off the agenda at that time legislature in part because of the rallying of support among the biotech folks that were there. And the NOL was modified.

>> Ms. Kiraly: That was a huge issue for these companies. And we had people from the industry and industry groups and the industry group association, and the VCs so we got a very brought perspective on what works to keep us competitive.

>> Lt. Gov. Garamendi: These issues were not presented as a CED issue but the participants there, engaged and rallied around and I know had an effect on the way in which the tax legislation was being considered.

>> Ms. Kiraly: Well, and a lot of that was thanks to you. Thanks for bringing it out.

>> Lt. Gov. Garamendi: It was everybody involved.

>> Ex. Dir. Baum: I'm going to, in the name of managing this meeting do the aerospace and goods movement advisory committees since our last meeting in the following statement. They are working on their recommendations and they'll present them to us in December. With that, lieutenant governor I'd turn it over to you for any discussion or public comment you may want to invite.

>> Lt. Gov. Garamendi: Well, let's go to the public comment. And as that comment, if there is any, we should invite the comments of the commissioners. And so directions or things you think we ought to be participating or focused on, please let's hear from you. If there's some member of the public that would like to address the commission, now's the opportunity to do so.

>> Mr. Chair, while the first person if any is coming up, two quick things. One, have we -- have we taken it upon ourselves to figure out how we, at the CED, could negotiate this backlash of the loss of corporations in the state due to our regulatory requirements? Other than having it all over the place, you know, every little nook and cranny, the raid association or manufacturer, whoever, really kind of wrap it up, even if it's a loose bowl up under us, really that's what we're all about, trying to keep business in the the eighth. And I mean, no disrespect to anybody outside the state, Arizona and Nevada, they're vultures, taking everything that's not nailed down. We need to take anything we can. If we can at least have it under our umbrella where people who know where to flow, I hear so and so's about to move or I hear so-and-so's been given an offer, you know, something that would good I'd information to us. I don't know.

>> Lt. Gov. Garamendi: A couple of things that come immediately to mind. One is the attention of the state agencies to the needs and inquiries that came to this area, some of the activities of that agency were pushed over to the business transportation and housing. There is a focus that's developing within that agency and I believe a deputy secretary has been appointed for the purposes of trying to focus the attention of the state on the needs of companies that want to expand, want to come here, or to -- or might be leaving for reasons, any number of reasons, that has not yet totally matured to the point being as

vibrant as is necessary. There are within agencies of the state government a small remnant that does exist. Rick --

>> Mr. Stone: I would love to work, if you so chose to pick up that mantle, I'll work with Dale.

>> It is at BT and H. Part of what the administration has recognized, and surely the lieutenant governor and I have been arguing it for some time, we hear it particularly from the economic developers down in the communities, that they just don't -- haven't felt for a while that there's been any real focus and direction. And with this movement, with the creation of the undersecretary position over at BT and H, there really is now a genuine effort to try take a look at all of these issues and put together a program. And they're working very closely with us so feel very positively about that.

>> Lt. Gov. Garamendi: We took it upon -- I took it upon myself that I would fill that void as much as I possibly can. Companies that feel they need attention often find themselves in our shop and we push that out to others, some state agencies, if that's appropriate, Department of Agriculture, if that's appropriate, other state agencies. But mostly it turns out that the real strength lies in the regional economic development organizations. And for some time now, until there's a much more robust budget, as in money available, we're going to have to push out to the local regional development agencies the task and provide as much coordination as possible from the state agencies. The fellow, the guy's name --

>> Brian McGowan.

>> Lt. Gov. Garamendi: Doing best he can with very limited budgets.

>> At the state level, if we can't always be of direct assistance, that we at least get out of the way in some instances. Which is a part of the process, hooking at it. You've mentioned the regulatory scheme. Until we've sorted through existing regulatory system, it probably isn't sensible to pack on a whole bunch of new ones. So that's a bit of the process. But I do think that there -- the issue you raised is one that has been recognized.

>> Mr. Stone: And lastly sir, real quick, on our December meeting, could we possibly have the meeting later, and then have some like small holiday reception. You should do something. You got them there after the meeting, right after the meeting have a get-together.

>> Do it later in the day?

>> Mr. Stone: Later in the day.

>> Lt. Gov. Garamendi: Ashley.

>> Ms. Swearengin: I want to make a comment about something that's going on in the San Joaquin county, and Tom maybe in your subcommittee, we're hearing a lot about the complications from the agricultural community, being separate from the state water board. Second tuck from Cal EPA, convening a way for streamlined approach to air and water regulations. It relates back to the renewable energy question. But it is going to be difficult to centralize some of the operation for various manure based companies. I wanted to add it to the list of things that I know are standing in the way of adoption of clean technology in the ag arena. Anything that we can do to support what Cal EPA is trying to make happen --

>> What are they trying to make happen?

>> Ms. Swearengin: They are trying to get the air regulators and water regulators, come together to take care, I was talking to the water regulators, getting the dirty emissions, if you don't do it all together it's not going to make sense.

>> Are they under the same agency, the two boards?

>> No. In fact that's a specific recommendation that we're going to make as a part of our recommendation. The need to coordinate legislative and regulatory bodies such as air and water quality control boards.

>> Ms. Swearengin: Terrific.

>> Lt. Gov. Garamendi: If for example, if you want to deal with the discussion today, climate change, then the regulatory boards need coordinate their regulatory activities to accomplish the goal. Right now, that may not be -- right now that does not happen.

>> So they don't care if they dirty the air as long as the water gets clean.

>> Ms. Swearengin: And vice versa.

>> But I think one of the things that this commission and particularly our advisory groups, is enabling, is that oftentimes these conflicts get identified. But there isn't a solution that's presented. I think bringing the industry together, as the agriculture group has done, we're not only able to identify but we will propose a mechanism through which that they can resolve it. And that is -- and it has the weight of folks who are, as you're pointing out, day-to-day dealing with this issue, as opposed to individually, this is a problem for me. I think we can craft it and position it as being an industry issue.



>> Lt. Gov. Garamendi: Okay. Any other comments? I believe we've run our course. It's been a very informative meeting all the way around. We have some task force out ahead of us. I want to thank the chairs of each of the advisory groups for their extraordinary time and commitment for making these advisory groups real, and they are real. Good work has already come from all of them, and more in the future. So with that, we will adjourn the meeting. Thank you all very much.